

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method of hydrogen gas generation, comprising the steps of:

culturing genetically modified algae under illuminated conditions in a media comprising sulfur wherein sulfate permease expression of the algae is reduced relative to unmodified normal wild-type algae wherein the algae is genetically modified to disrupt expression of chloroplast sulfate permease gene *CrcpSulP* comprising SEQ ID NO:2;

sealing the algae culture from atmospheric oxygen; and
collecting hydrogen gas evolved.

2. (Currently Amended) The method of claim 1, wherein the algae is a green algae and the algae comprises a genome which is artificially engineered to reduce sulfate permease expression comprising SEQ ID NO:1 relative to a wild-type algae.

3. (Currently Amended) The method of claim 2, wherein the algae is a unicellular, photosynthetic, anoxxygenic algae.

4. (Canceled)

5. (Canceled)

6. (Currently Amended) The method of claim 1, A method of hydrogen gas generation, comprising the steps of:

culturing algae under illuminated conditions, wherein the algae is an isolated strain with downregulated expression of sulfate permease with 50% or less expression of chloroplast sulfate permease gene *CrcpSulP* comprising SEQ ID NO:2; relative to normal wild-type algae
sealing the algae culture from atmospheric oxygen; and
collecting hydrogen gas evolved.

7. (Canceled)

8. (Original) The method of claim 2, wherein the genetically-modified algae is modified by a technique chosen from insertion of an antisense strand of *CrcpSulP*, insertion of a sense strand of *CrcpSulP*, ablation of *CrcpSulP* and targeted gene deletion of *CrcpSulP*.

9. (Currently Amended) The method of claim 8 ~~7~~, wherein the algae is modified by insertion of an antisense sequence which hybridizes to a portion of SEQ ID NO:2.

10. - 31. (Canceled)